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ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
January 5, 1995, 9:00 A.M.
EXECUTIVE CONFERENCE ROOM
(Revised 2/3/95)

Present:	R. A. Welke	C. J. Arnold	R. E. Maki
	G. D. Taylor	C. Roberts	G. D. Dobie
	L. R. Brown	J. W. Reincke	J. D. O'Doherty
	P. Miller		
Guests:	W. C. Turner	I. Patel	J. Kelsch
	D. Vandenberg	L. Galehouse	

OLD BUSINESS

1. **Approval of the Minutes of the December 9, 1994, Meeting - R. Welke**

Minutes of the December 9, 1994, meeting were approved in accordance with the revisions regarding the Action statement for the following items:

OLD BUSINESS: Item No. 1, "Approval of the November 3, 1994, Minutes"

ACTION; As Written: Jerry Dobie and Robert Maki, Engineers of Construction and Traffic & Safety, respectively, were given a charge to co-chair a committee to explore, review and submit a report of recommendations which addresses maintaining traffic on rubblizing and overlaying type construction projects. The finalized recommendation will be submitted to R. Welke.

ACTION; Revised: Jerry Dobie and Robert Maki, Engineers of Construction and Traffic & Safety, respectively, were given a charge to co-chair a committee to explore, review and submit a report of recommendations which addresses maintaining traffic on high impact construction projects. The finalized recommendation will be submitted to R. Welke.

NEW BUSINESS: Item No. 1, "Research Report No. R-1327, Research Project 86 G-267"

ACTION; As Written: The final report was approved as modified, with editorial comments, by the EOC. John O'Doherty, Engineer of Maintenance, was given the task to outline the program cost for maintaining new concrete pavement as part of our maintenance program. A report will be submitted to the EOC for consideration at the January, 1995, scheduled meeting. M&T will distribute a summary of the report to Maintenance personnel, contract and direct forces.

ACTION; Revised: The final report was approved as modified, with editorial comments, by the EOC. John O'Doherty, Engineer of Maintenance, was given the task to outline recommended good practice preventive maintenance actions for maintaining new concrete pavement as part of our maintenance program. A report will be submitted to the EOC for consideration at the

January, 1995, scheduled meeting. M&T will distribute a summary of the research report (R-1327) to Maintenance personnel, contract and direct forces.

NEW BUSINESS

1. **Pavement Type Selection for EOC Approval, I-94 Reconstruction, from West of Friday Road Easterly to East of Hennessy Road (Eastbound: Five Miles, Three Experimental Sections; Westbound: Five Miles, One Experimental Section), District 7 (Attachment) - C. Arnold/I. Patel**

   Decision: Approved the reinforced concrete pavement alternative (with some non-reinforced experimental concrete pavement sections and 14-foot right-lane and bituminous shoulders) as follows:

12"	Reinforced Concrete Pavement (27' Joint)
12" to 9"	Reinforced Concrete Shoulders
4"	Open Graded Drainage Course (3G)
	Geotextile Separator
8"	Ex. Sand Subbase - Add Underdrains

   ACTION: Design Division will proceed with project development to meet the scheduled March, 1995, completion date.

2. **Bituminous QC/QA Specification - J. O'Doherty**

   John O'Doherty expressed his concern regarding the Joint Committee on Bituminous Pavements writing a new Bituminous QC/QA Specification (proposed) intended to be required for all MDOT bituminous projects. John's specific concerns centered around the new specification requirements which would unreasonably burden the Highway Preventative Maintenance Program by including a pay item for testing and the introduction of incentive price adjustments.

   In the Preventative Maintenance Program, testing costs have been incidental to the cost of bituminous mixtures, which are limited to single course applications. Unless the payment of cost incentives would significantly increase the surface life of the preventive bituminous applications, it would not be cost-effective considering the limited design life of such projects.

   Decision: The EOC agreed that the new specification will require additional effort; however, over the long term, the benefits will be significant as a result of the quality products obtained from the QC/QA projects.

3. **Elimination of Detail 7, Transverse Joint Repair - J. Dobie**

   Jerry Dobie expressed concern regarding the continued use of Detail 7, Transverse Surface Joint Repair. Reference was made to the experimental project conducted on segments of M-50. The project's final report, completed in 1985, contains specific recommendations for surface joint repair (Detail 7) and full-depth joint repairs (Detail 8). Detail 7 should be used to address longitudinal joint repairs only, and Detail 8 should be used as the recommended treatment

method for all other repairs. It was also noted that additional cost is a consideration and must be assessed in terms of its total implication for statewide application.

ACTION: Design Division was given the task to investigate the use and application of these details, to provide an assessment, including cost information (life-cycle cost), and to submit recommendations to EOC for consideration.

4. **Proposed Federal Traffic Barrier Policy - R. Maki**

Reference is made to the January 3, 1995, letter from A. George Ostensen, FHWA, in regard to a September 29, 1994, memorandum from the then FHWA Executive Director, Dean Carlson, regarding traffic barrier safety and guidance. The purpose of the correspondence was to assist states in the development of design and maintenance policies and increase safety on the National Highway System (NHS), particularly the interstate system.

In order to increase the safety of the NHS, FHWA has identified and singled out for improvement, five barrier practices and policies in use by the states. A summary of barrier practices and associated deadlines established for compliance is presented below:

1. Replacement of Blunt End Terminals Within Clear Zones

   Six months (February 28, 1994) develop a plan and schedule for upgrading. Replacement upgrading should be complete within two years (September 29, 1996).

2. Turned Down Terminals

   A year from September 29, 1994, turned down ends will no longer be acceptable for installation. Damaged units must be replaced with crash-worthy terminals.

3. Breakaway Cable Terminals (BCT)

   A year from September 29, 1994, the BCT will no longer be acceptable for installation.

4. All maintenance replacement of substandard terminals should be replaced with crash-worthy terminals.

5. Connection of Approach Guardrail to Bridge Rail

   Any unconnected bridge-approach guardrail on the NHS should be connected <u>within three years</u>, by September 29, 1997.

ACTION: Bob Maki, Traffic & Safety, was charged to take the lead in working with the Barrier Advisory Committee to review and assess existing practices, determine the cost implication to meet FHWA requirements, and prepare

recommendations for consideration by the EOC. The findings and recommendations will be presented at the February 2, 1995, EOC meeting.

5. **Load Testing of Bridges - J. Reincke**

A considerable number of Michigan bridges were constructed in the 1950's and 1960's. Some of them have shown signs of deterioration. In particular, there is severe corrosion on many steel and concrete structures. An assessment of MDOT's existing practices revealed a need for accurate and inexpensive methods for diagnostics, verification of load distribution and determination of the actual load-carrying capacity.

Field testing is an increasingly important topic in an effort to deal with the deteriorating infrastructure, in particular, bridges and pavements. Recent studies indicate that 40 percent of the national bridges are deficient. The major factors that have contributed to the present situation are: the age, inadequate maintenance, increasing load strata and environmental contamination.

The objective of the proposed project is the development of field tests on selected bridges to determine their minimum capacity, verify the distribution of loads, and identify the critical components and sections. Approximately five (5) structures will be tested. The selection of bridges and testing procedures will be coordinated with appropriate MDOT staff.

The proposed study will fully utilize the available knowledge and data regarding the methodology, structural behavior (material properties, member resistance) and bridge loads. The testing procedures will be carried out in accordance with the Manual for Bridge Rating Through Non-Destructive Load Testing, developed as a result of the NCHRP Project 12-28(13)A.

Decision: EOC approved the proposed research project as presented.

ACTION: J. Reincke, M&T Division, will include the project in the research program.

6. **Highway Preventive Maintenance Program Safety Criteria - T. Coleman**

A team lead by Larry Galehouse was to meet to develop proposed safety criteria for future preventative maintenance programs. The team includes Tom Myers, Tom Coleman, Jerry Dobie, Monte Endres and Mike Premo.

7. **Local Technical Assistance Program Budget - P. Miller**

Discussion centered around the FY 95 budget required for funding the rural and urban technical assistance program for local agencies. Issues requiring resolution include local participation and the funding of MDOT's share of the program.

ACTION: R. Welke/P. Miller will meet and discuss with the Bureau of Transportation Planning in an effort to resolve the initial request for funding.

8. **White Paper: "Preventative Maintenance of Concrete Pavements" - J. O'Doherty**

An ad-hoc task force has been formed to define specific Preventative Maintenance actions that should be applied to concrete pavements. Charged with this task are John O'Doherty, Herb Linne, Wen Kuo, Bil Turner and Larry Galehouse.

Defining prudent and cost-effective maintenance strategies requires subdividing concrete pavements into two groups. Pavements carrying heavy commercial traffic volumes must be treated differently from pavements servicing light to medium commercial traffic. Consistent with life-cycle maintenance analysis, a 35-year time frame will be established. Maintenance actions will include joint and crack sealing, joint repair, slab replacement, drainage clean-out and repair, and surface grinding. The resulting goal will be to prevent premature deterioration of the pavement structure, ride quality and friction.

ACTION: A detailed report will be submitted by February 1, that identifies maintenance actions and appendices that define scheduling sequences for pavements of varying types and ages.

9. **Experimental Construction Jobs - C. Arnold**

General Discussion: The districts have voiced concerns that experimental construction jobs increase the project final costs. After a lengthy discussion of the various issues, the EOC agreed that there is a need for further investigation and development of procedures that will take into account experimental projects and a mechanism that will assist the districts in managing their projects, without adversely impacting the project's final cost. EOC agreed in concept to entertain a proposal in which Design will designate at least $2.0 million of its program funding to address increased project costs to districts caused by experimental construction features.

ACTION: Design will review existing procedures and submit for EOC consideration, a proposed recommendation for funding increased costs on experimental construction projects.

10. **MAPA Write-Up of Joint Committee - R. Welke**

This item was referred to Tom Coleman with a charge to work with MAPA in developing a final draft of operating procedures for the Joint Committee.

ACTION: Tom Coleman will coordinate and submit final recommendations for the Joint Committee to EOC for consideration.

(Signed copy on file at M&T)
Calvin Roberts, Secretary
Engineering Operations Committee

cc EOC Members

District Engineers

G. H. Grove	G. J. McCarthy	L. K. Heinig	T. Adams
E. D. Winkler	D. L. Coleman	W. C. Turner	D. L. Smiley
L. W. Martin	H. J. Nyquist	R. W. Muller	R. E. Nordlund
L. E. DeFrain	G. L. Mitchell	J. E. Norton	C. W. Whiteside
I. B. Patel	C. G. Cantrell	G. H. Gallup	A. G. Ostensen
J. Kelsch	G. J. Bukoski	R. D. Till	J. Becsey